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ABSTRACT

Student achievement tests consistently show that certain groups of children score far below children in other groups. The data document a strong association between poverty and students' academic success. The achievement gap begins early in children's lives as the result of physical, social, and emotional deprivations. California is attempting to mitigate poverty, such as a high income-tax threshold, relatively generous minimum-wage law, improved access to health care, and the creation of the Children and Families First Program to promote and support early childhood development. Although investigations into why some students and schools perform better than others produced mixed findings, researchers do agree that narrowing the achievement gap requires a comprehensive set of strategies that are interdependent and crafted to meet local needs. California's efforts at solving the gap problem, though fragmented compared to those of other states, include reforms in education funding; the preparation and distribution of highly qualified teachers; school organization, management, and climate; and extra help and motivation for underperforming students. To address the student achievement gap more effectively, state policymakers need better data and definitive research to determine which practices make a difference in academic performance. A list of 27 selected resources concludes this report. (RT)

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Narrowing the Achievement Gap: A Review of Research, Policies, and Issues

Report

Linda Hertert and Jackie Teague

EdSource

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Clarifying
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Issues

Executive Summary:

Narrowing the Achievement Gap

Student achievement tests consistently show that certain groups of children score far below children in other groups. The data document a strong association between poverty and students' academic success or lack of it. And while poverty is not unique to any ethnicity, it does exist in disproportionate rates among African Americans and Hispanics, and among English learners.

The reasons behind the achievement gap are multi-faceted. They do to some degree stem from factors that children bring with them to school. However, other factors that contribute to the gap stem from students' school experiences.

Some children begin school at a disadvantage

Poverty is the single best explanation research has found for why children differ in ways that affect school performance, both before they enter school and once they are enrolled. While poverty does not cause low achievement, many children living in poverty are also exposed to certain risk factors that are thought to contribute to poor student performance.

The achievement gap emerges early in children's lives as the result of physical, social, and emotional deprivations. Adequate food, shelter, and medical care, as well as sensory experiences such as being read, sung, and talked to are critical to the healthy cognitive development of young children.

Exposure to oral and written language before entering school is also known to broaden children's vocabulary and to facilitate the acquisition of literacy skills. Children, however, differ in their exposure to early literacy activities, and often along socioeconomic lines.

Solutions target school readiness and poverty

Every poor child is likely to benefit to some extent when a family's economic situation is improved. Strategies for raising families out of poverty include: providing temporary financial assistance while parents acquire the skills necessary to enter the job market or to secure better paying jobs; and/or reducing the drain on limited financial resources by eliminating the tax burden on low-income families. Other possible strategies—such

as guaranteeing a living wage and changing the tax structure to narrow the gap between wealth and poverty—might be effective but are politically challenging to develop and implement.

Another way to offset the effects of poverty is to provide poor children with opportunities to develop the cognitive and social skills they will need to succeed in school. Strategies include providing free or inexpensive programs that help parents learn how to create nurturing and stimulating environments for their infants and young children. Another approach—providing stimulating environments for children through organized preschool activities—is the focus of the federal Head Start program and is promoted by universal preschool advocates.

California attempts to mitigate poverty

California has a number of policies to help improve the economic circumstances of poor families and to compensate for some of the conditions of poverty likely to influence cognitive development and schooling success. Some—such as a high income tax threshold and relatively generous minimum wage law—attempt to mitigate the impact of family poverty. Many programs subsidize participation in preschool and childcare programs. California and the federal government in recent years have also put substantial resources into improving access to health care. These policies vary in their effectiveness and coverage.

In addition, Californians in 1998 passed Proposition 10, which provided a new revenue source for county-level programs aimed at helping preschoolers. This voter initiative created the Children and Families First program to “promote, support, and optimize early childhood development” of children from before birth to their fifth birthday.

The belief that schools can and should narrow the gap propels education reform

For decades a driving force in education reform has been confidence—or at least optimism—that schools can help students overcome the factors they bring with them to school that limit academic achievement. In pursuit of that goal, researchers have for more than 40 years doggedly pursued answers as to why some students and schools perform better than others.

The findings from much of this work are mixed and provide little guidance in designing discrete solutions with reliable and predictable results. To the extent that conclusions have been drawn, they indicate that no silver bullet exists. Instead, narrowing the achievement gap requires a comprehensive set of strategies that are interdependent and crafted to meet local needs.

The philosophy of the current standards-based reform movement reflects this research conclusion. Standards-based reform includes multiple components that integrate a unifying vision and goals with coherent instructional guidance and restructured governance systems. Central to this movement is the notion that all children can learn and that schools control the factors necessary to assure student mastery of a rigorous core curriculum.

California and many other states enthusiastically responded to the theory of standards-based reform. They drafted content standards for students in core subjects and aligned teacher preparation standards, accountability systems, and student and teacher assessments with these standards. However, despite theorists' call for shifting authority to those closest to the work, most states have been less successful at providing flexibility so local schools can adapt the policies to meet local needs. Experts believe such a shift would require a fundamental change in the top-down organizational structure that characterizes much of public education and thus continues to challenge policymakers and local educators alike.

So far, it is difficult to come to any definitive conclusions on the specific effects of standards-based reform on student achievement. What is known, however, is that states such as Texas, North Carolina, and Connecticut that have sustained reform policies across governors and parties have met with success in narrowing the achievement gap.

California's efforts are both more recent and more fragmented than has been the case in some of these other states. State leaders have crafted many reforms, including some specifically aimed at narrowing the achievement gap:

- **Education funding**, including equity between school districts, earmarking of funds to support underprivileged students, and most recently a look at the overall adequacy of funding.
- **The preparation and distribution of highly-qualified teachers**, including some efforts to provide incentives for teachers to work in the lowest-performing schools and some emphasis on teacher professional development.
- **Extra help and motivation for underperforming students**, including more prescriptive state policies on the instruction and assessment of English learners; funds for supplemental instruction programs; and motivational strategies ranging from the

California High School Exit Exam to scholarships rewarding good performance on statewide tests.

- **Reforms aimed at school organization, management, and climate**, including school improvement plans required through the state's accountability system, some increased emphasis on school site leadership, and a major taxpayer investment in school facilities.
- **Increased pressure on schools**, including encouragement of charter schools as an alternative to the regular public school system, and the public ranking of schools through the state's Academic Performance Index (API).

In some cases these policies have unintentionally exacerbated the achievement gap, with class size reduction a case in point. In others, it is too soon to assess their impact.

New and far-reaching federal legislation may be the next step in this evolutionary story of education reforms and the achievement gap. The stated goal of the 2001 law, the No Child Left Behind Act (NCLB), is to "close the achievement gap between disadvantaged and minority students and their peers." NCLB calls for "stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work." California leaders are currently at work to develop or adapt state policies in order to carry out these objectives in the manner required by federal regulations.

Research and experience offer direction

An extensive body of research documents the multiple factors associated with the achievement gap. Some of these are factors children bring with them to school. Other factors—such as how well a school is organized and managed, how qualified its teachers and other staff are, what subject matter and curriculum they teach, and how high the expectations are for all a school's students—are within local control, including that of district school boards, administrators, and union leaders.

State policymakers have put some effort and resources into addressing the achievement gap, and NCLB attempts to require more. But state and local educators need better data and definitive research about how K–12 students are doing and what practices make a difference in their performance. Perhaps more importantly, state leaders need to sustain their investment in reform efforts in order to maximize their effectiveness even when facing severe financial constraints.

To learn more, contact EdSource or go online to order the full report, *Narrowing the Achievement Gap*, and see a list of resources at: www.edsource.org/pub_abs_achgap.cfm



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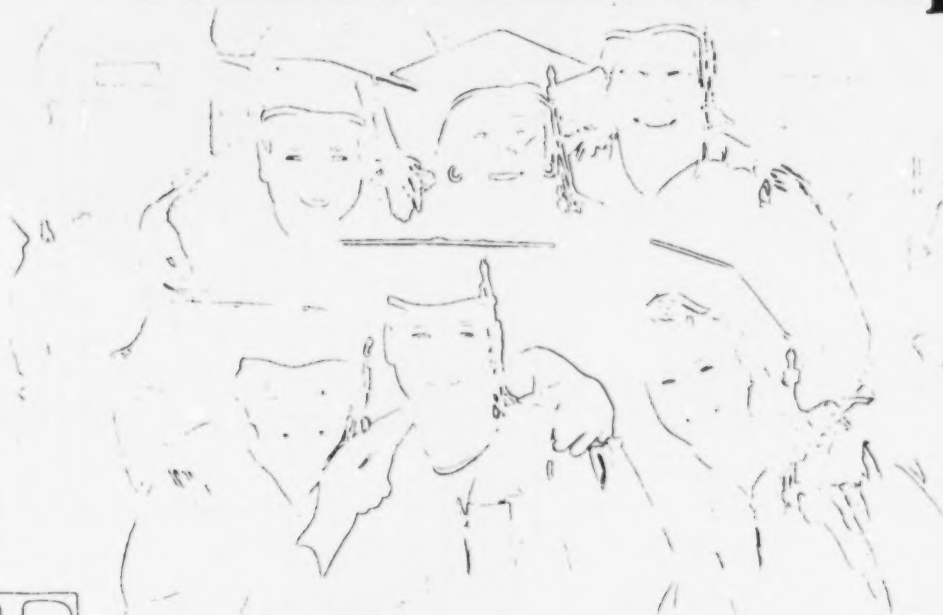
January 2003



Clarifying
Complex
Education
Issues

A review of research, policies, and issues

Narrowing the Achievement Gap



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Evaluations of public education in the United States are most often based on how students perform on standardized, paper-and-pencil tests. The vast majority of these subject-matter tests are unique to a given state, so comparisons of results among states are virtually impossible. In California, the standardized tests have changed often enough that it is difficult to compare results within the state over an extended period of time. Despite these challenges, the vast assortment of tests administered in California and other states over the last 50 years are fairly consistent in at least one respect—they show that certain groups of children repeatedly score far below children in other groups.

This report illustrates the extent of the achievement gap in California and nationally using common indicators of educational achievement, including test scores. It then summarizes research and theories on the possible reasons for differences in student performance and solutions to address these differences. In particular, this report describes California's various policy responses to this tenacious problem and the implications these strategies have in light of the existing research and practice. Such an examination is particularly important in the context of

California's current and projected fiscal crisis—including a state budget deficit projected at \$35 billion through 2004—so that spending cuts do not further exacerbate the achievement gap.

After decades of reforms, the achievement gap persists

The student achievement gap in the United States has a long and well-documented history. In 1966 a federally funded report, *Equality of Educational Opportunity*, brought to the general public's attention the vast differences in academic performance between "rich, white students and the average poor, minority student." This highly publicized and often stridently criticized, two-volume publication—commonly known as the "Coleman Report"—found that family socioeconomic status (SES) was the single best predictor of a child's schooling success and that the effects of school were not sufficient to offset the effects of SES. It came in the wake of President Lyndon Johnson's sweeping "Great Society" legislation, which included such programs as Head Start and Title I.

The Coleman Report findings deflated the Great Society efforts—many of which were aimed at schools—because it was pessimistic

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about the ability of schools to affect student achievement. It also generated a lot of activity in the research community. Researchers produced piles of journal articles and institutional reports in the following decades documenting differences in student performance, suggested causes, and proposed solutions.

According to University of California, Los Angeles, Professor Jeannie Oakes, the 1970s marked a time when the federal government invested most generously in Great Society programs and desegregation orders were most strictly enforced. Stanford University Professor Marshall Smith and University of Wisconsin Professor Jennifer O'Day, who analyzed National Assessment of Educational Progress (NAEP) trend data from that period, found that the achievement gap narrowed 35–50% between the early 1970s and 1988. Among the factors they suggested as having contributed to the narrowing of the gap were declining poverty rates and higher maternal educational attainment among African Americans during this period, as well as dramatic improvements in the quality of Southern public schools due to desegregation. (Smith and O'Day's analysis also revealed that during the early and mid-1990s, the gap ceased to narrow.)

In 1983, a widely cited report, *A Nation At Risk*, warned that students in the United States were, as a whole, less skilled and less knowledgeable than their counterparts in other industrialized nations. This launched an unprecedented two decades of educational reform aimed at “excellence” in education that de-emphasized basic skills and emphasized “higher-order” skills believed necessary to compete in a global, technology-based economy. Many warned that this race for excellence would leave “students at risk” behind if the country did not provide adequate support and new strategies to help these children catch up with their higher-performing classmates.

By the end of the 1980s, influential reports such as the U.S. Department of Labor's Workforce 2000 predicted an unsettling future. The same poor children and children of color who were not achieving well in school would face a

global economy where low-skill jobs paid increasingly lower wages. In response, policymakers and the public demanded improvements in education aimed at narrowing the persistent achievement gap.

In the new millennium, analyses of decades' worth of student demographic and performance data abound. Many researchers—and indeed the federal government—are frustrated that, taken as a whole, research findings are inconclusive and have yet to reveal “what works” to narrow the achievement gap. Nonetheless, results have shown with some consistency that student achievement has increased gradually over time. Unfortunately they also show that the achievement gap, though narrowing in the 1970s, is as prevalent today as it was reported to be when the Coleman Report was released in the late 1960s.

The following section of this report provides some examples of the extent and nature of this gap both nationally and in California. (For a comprehensive discussion of California's student achievement indicators, see EdSource's June 2002 report, *California Student Achievement*.)

NAEP results show a wide achievement gap across the country

Discussions of student performance across the United States are limited by the fact that the country does not have a national test of what every student in every state knows. The closest thing to such an evaluation is the National Assessment of Educational Progress (NAEP). NAEP is a battery of tests in various subject areas, given periodically since 1969 to a nationally representative sample of 4th, 8th, and 12th graders and, since 1990, to representative state samples. (Currently 32 states participate in the state representative portion of NAEP.) The tests are criterion-referenced with scores measured against performance levels ranging from “below basic” through “advanced.”

The most recent results from the NAEP reading (1998), mathematics (2000), and science (2000) assessments of 4th and 8th graders across the United States (see Figure 1) show that poor children—those eligible for the National School Lunch Program (a

proxy for poverty)—perform significantly below their more advantaged classmates:

- The percent of poor students scoring “below basic” is more than twice as high—in all subjects and for both grades—as it is for higher-income students.
- The percent of poor students scoring at or above the “proficient” level tends to be about one-third that of higher-income students across all subjects and both grade levels.

Poverty is not unique to any age group, family type, race, or ethnicity. It does, however, exist in disproportionate rates among the very young, among families headed by single women, and in African American and Hispanic populations. Poverty is strongly associated with, but by no means determines, a child's academic success. Although poverty is more prevalent among certain family types and racial/ethnic groups, the relationships are not absolute.

Results show strong relationships between performance and ethnicity

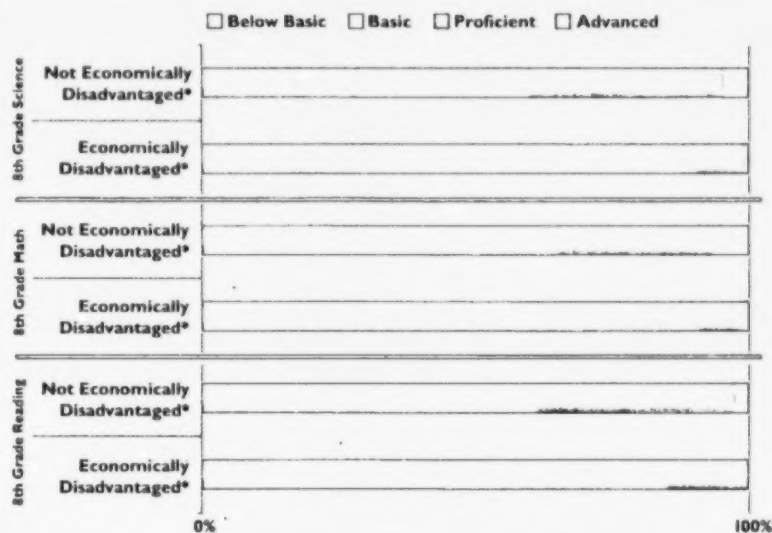
Race/ethnicity is commonly used to report student achievement data. This approach can help determine whether the educational system is serving different groups of students equitably. However, reporting based on race/ethnicity has its shortcomings. Ethnic groupings often mask differences within the group that may be important, such as between Chinese and Vietnamese students—both identified as Asians. Further, because of the strong correlation between race/ethnicity and poverty, conclusions based solely on race/ethnic distinctions reflect the effects of poverty as well as race. With these caveats in mind, the NAEP results by race/ethnicity (see Figure 1) show the following:

- The percent of African American and Hispanic students in the United States scoring “below basic” tends to be about two to three times higher—across all subjects and grade levels—than for white and Asian/Pacific Island students.
- The percent of African American and Hispanic students scoring at or above the “proficient” level tends to be about one fifth that of white and Asian/Pacific Island students—across all subjects and grade levels.

Figure 1

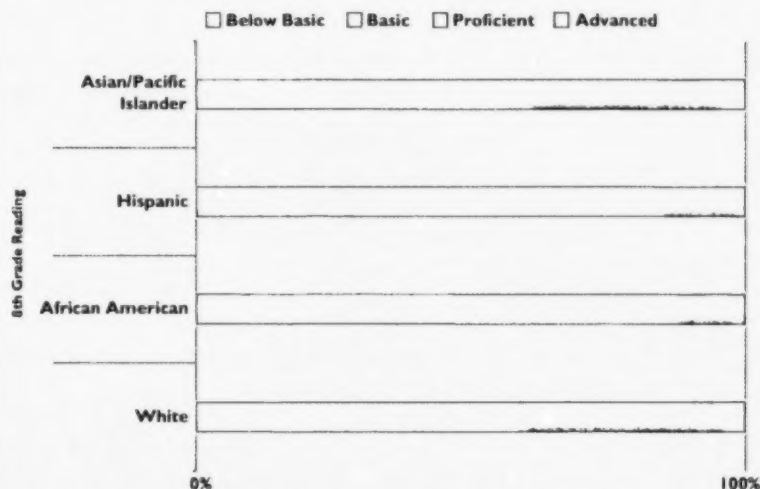
NAEP results consistently show achievement gaps nationally

Across several subjects, eighth grade results show children living in poverty* score lower



* For the purpose of this chart, “living in poverty” or “economically disadvantaged” is defined as being eligible for the National School Lunch Program.

Eighth grade reading scores illustrate typical performance differences among ethnicities



Data: National Center for Education Statistics

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The achievement gap is also evident in California's own test results

California's own statewide tests also show an alarming achievement gap. The most recent results from the new California Standards Tests (CSTs) show the same patterns of differential performance as the NAEP (see Figure 2):

- The percent of poor students scoring "below basic" and "far below basic" tends to be about two times higher in English language arts and mathematics across all grades tested than for students from higher-income families.
- The percent of poor students scoring at or above "proficient" tends to be about one-third that of

Two types of standardized tests that are used to measure achievement

Norm-referenced test: A test in which an individual or group's performance is compared to a larger group. Usually the larger group is representative of the cross-section of all U.S. students.

Criterion-referenced test: A test that measures a student's performance against specific standards, often along a continuum from total lack of skill to excellence. Criterion-referenced tests generally have cut scores that determine whether a test-taker has passed or failed the test or has basic, proficient, or advanced skills. Criterion-referenced tests—unlike norm-referenced assessments—are not primarily created to compare students to each other. The goal is typically to have everyone attain a passing mark.

Results show that all California students lag behind similar students nationally

As dismal as the national NAEP results are, the data suggest a more serious student achievement problem among all of California's students:

- Compared to national percentages, a lower percent of California's students—both rich and poor—score at or above "proficient" on the NAEP's reading, math, and science tests, and a higher percent score "below basic" than similar students in the nationwide sample.
- The tendency is for a lower percent of California's students—across all ethnic groups reported by NAEP—to score at or above the "proficient" level and for a higher percent to score "below basic" than do their peers nationally.

higher-income students in English language arts and one-half that of higher-income students in mathematics across all grade levels tested.

The most recent scores (March and May 2002 combined) from the state's new High School Exit Exam (CAHSEE) also show a pattern of differential achievement based on ethnicity:

- The percent of Asian and white students passing the math section of the CAHSEE was more than twice as high as for African American and Hispanic students.
- The percent of Asian and white students passing the English language arts section of the CAHSEE was about one-and-a-half times higher than for African American and Hispanic students.

Another clear achievement gap exists in California between students who are designated as English learners (ELs) and those who are not. This gap shows up on the California Standards Tests, the Stanford-9, and the CAHSEE; and while the gap is largest on the English sections of these tests, it is substantial on the mathematics sections as well.

At the elementary school level, the achievement gap between ELs and other students is comparable to the one between poor and higher-income students. But the gap gets larger at the middle school level and larger still at the high school level. Students designated as ELs do not retain their designation indefinitely. Rather, they are periodically tested to determine if they can be redesignated as "fully English proficient." ELs are thus progressively rarer in middle and high school, and those who remain classified EL are progressively further behind the majority of their classmates.

Some sort of gap between ELs and other students is inevitable whenever English skills are among what is tested; anything otherwise would raise serious questions about either the test used to determine English proficiency or the English portions of California's other tests. Nonetheless, given that approximately one fourth of California's students are ELs, the achievement level of this group is a central issue in California education.

Other measures of schooling success show a similar pattern of achievement for California's students—based on ethnicity—to the one that exists nationwide:

- The percent of Asian and white students completing all courses required for University of California and/or California State University entrance in 2000–01 was about twice as high as for African American and Hispanic students.
- The percent of Asian and white students scoring at or about 1000 on the year 2000 SAT for college ad-

mission (most recent data) was at least three times higher than for the African American and Hispanic students who took the test.

- The percent of African American and Hispanic students statewide who dropped out of high school in 2000–01 (most recent data) is about twice as high as for Asian and white students. (Specific data on the dropout levels of EL students are unavailable.)

Multiple interrelated factors contribute to the achievement gap

Some of the achievement gap appears to stem from factors that children bring with them to school, while other factors that contribute to the gap include resources, conditions, and opportunities available for students at school. The next sections more fully explore some of the theories and research on the causes of the gap and consider some of the proposed solutions and California policies aimed at offsetting these factors.

Attempts to explain the achievement gap and proposals for narrowing it can be broadly categorized as either focusing on factors external to schools or factors that are school-based. Research and proposed solutions also tend to reflect either a “cultural” perspective that views behavior as the result of the beliefs and values of the individual, family, or group, or a “structural” perspective that views behavior as the product of environmental factors outside the individual.

These perspectives, in the extreme, create a false dichotomy between “blame the student” and “blame everyone else.” The achievement gap results from complex and confounding interrelationships among many different variables including a student’s background, choices, and experiences outside of school, as well as the school’s structure, processes, and commitment to student learning. Unfortunately, however, the causes of the gap as well as solutions for narrowing it tend to unintentionally reinforce that dichotomy.

Some children begin school at a disadvantage

Research shows that children entering school for the first time differ from one another in ways that can potentially affect their educational progress. For example, the National Center for Education Statistics’ (NCES) national longitudinal study of children entering kindergarten in 1998 found that some groups consistently lagged behind others on meas-

ures of social, emotional, physical, and cognitive development. Children from families with mothers who did not graduate from high school, who received food stamps or were on welfare, who were headed by a single parent, and/or whose parents’ primary language was not English were disproportionately represented in the low-scoring group. All of these factors correlate highly with poverty.

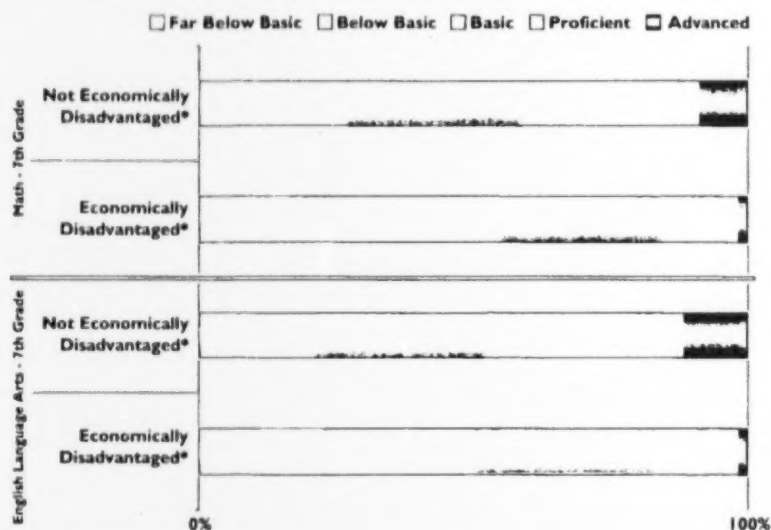
Poverty sets the conditions for the gap

Poverty is the single best explanation research has found for why children differ in ways that affect school performance, both before they enter school and once they are enrolled. While poverty does not cause low achievement, many children living in poverty also are exposed to certain risk factors that are thought to contribute to poor student performance. These include lacking access to health care, adequate nutrition, and decent housing; growing up in a single-parent household; being exposed to substance abuse at a young age; and living in a crime-ridden neighborhood.

Risk factors have a synergistic effect on school performance—children with one risk factor typically do not fare as well as those with none, while children with two or more risk factors lag far behind those with only one. Research also shows that the detrimental effects of poverty are more extreme the earlier it occurs in a child’s life, the longer it lasts, and the more severe it is.

Figure 2

California Standards Tests show dramatic gaps based on socioeconomic status* as illustrated by seventh graders



* For the purpose of this chart, “economically disadvantaged” is defined as being eligible for the National School Lunch Program.

Data: California Department of Education

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In myriad ways, poverty can constrain a family's ability to provide the type of care, environment, and experiences children need to grow and develop in the same ways and at the same rate as their more affluent peers. Most children are about five years old when they first enter kindergarten. Recent research on early brain development shows that a child's environment and experiences in these five preschool years are important in laying the groundwork for future learning.

Physical, social, and emotional factors are early triggers for the achievement gap

The achievement gap emerges early in children's lives as the result of certain physical, social, and emotional deprivations. In the early stages of pregnancy, the fetal brain begins to form the trillions of brain cell connections it will use throughout a lifetime. This process continues rapidly through the first few years of life. Research shows that the fetal brain and that of the young infant are especially vulnerable to damage from toxins and malnutrition that can result in learning disabilities later in life.

Certain children are at greater risk than others during these early years:

- The percent of Hispanic and African American expectant mothers receiving no prenatal care or care only in the last trimester is *two times greater* than for white non-Hispanics and Asian/Pacific Islanders, according to the U.S. Census Bureau in 2001.
- A higher percent of female-headed households in the country report having limited or uncertain access to adequate and safe food than does any other family group, according to the U.S. Department of Agriculture in a 2000 report.
- In California, Latino children are *more than three times as likely* and African American and Asian/Pacific Island children *more than twice as likely* to lack health care coverage than are white children, according to Children Now in a 2002 report.

Neuroscience research also contradicts the widely held assumption that infants are born with a fixed intellectual capacity. While most neurologists believe some neurons, such as those that control heartbeat and breathing, are hard-wired by genes, most of the brain's "wiring" happens in the first three years of life. Without having experiences during these years such as being read, sung, and talked to, countless potential neural connections may wither away or never form at all.

Not to be overlooked are the social factors and processes that play an enormous role in determining a

child's later learning and future academic success. High family stress levels, maternal depression, little interaction with the child, and family illiteracy all have a negative impact on a child's developing capacity to learn.

Being raised in a literate environment increases a child's chance for future school success

One commonly used proxy for evaluating the type, quality, and quantity of learning and experiences children receive at home in their early years is the amount of time they spend looking at books and the amount of time their caregivers spend reading to them. Exposure to oral and written language before entering school is known to broaden children's vocabulary and to facilitate the acquisition of other literacy skills, such as understanding text and story sequencing and associating sounds and letters of the alphabet. Developing these basic literacy skills is critical for later learning in school.

The advantages of early experience with language and text apply even if the language spoken at home is different from the language used in school. According to a report by the Poverty & Race Research Action Council, considerable evidence exists that the knowledge students acquire in speaking and reading their first language is transferable to learning to speak and read a second language.

Children, however, differ in their exposure to early literacy activities:

- In a national survey, twice as many high-income parents reported reading daily to their young children as did low-income parents, according to a 2002 report by the Educational Testing Service (ETS).
- In a 1999 study by the NCES, twice as many high-income parents reported visiting a library with their young children in the prior month than did poor parents.

Solutions focus on preschool programs and raising families out of poverty

Solutions for minimizing the effects of poverty on student achievement focus on raising families out of poverty and providing the care and experiences presumed to be missing in the lives of poor children.

Because the effects of poverty vary by time and severity, every poor child is likely to benefit to some extent when a family's economic situation is improved. Strategies for raising families out of poverty include: providing temporary financial assistance while parents acquire the skills necessary to enter the job market or

to secure better paying jobs; and/or reducing the drain on limited financial resources by eliminating the tax burden on low-income families. Other possible strategies—such as guaranteeing a living wage and changing the tax structure to narrow the gap between wealth and poverty—might be effective but are politically challenging to develop and implement.

Another way to offset the effects of poverty is to provide poor children with opportunities to develop the cognitive and social skills they will need to succeed in school. Strategies include providing free or inexpensive programs that help parents acquire the skills and knowledge necessary to create nurturing and stimulating environments for their infants and young children. Another approach—providing stimulating environments for children through organized preschool activities—is the focus of the federal Head Start program and is promoted by universal preschool advocates.

A review of 38 separate studies of early childhood education programs—15 model programs developed by researchers and 23 Head Start and public school programs—examined the long-term effects of early childhood education on low-income children. W. Steven Barnett, professor at Rutgers University and author of the review, found in general that participation in these programs improved cognitive development and produced long-term increases in academic achievement and school success. Overall, this was true across the range of programs and communities studied, though effect sizes were smaller among Head Start and public school programs than in model programs.

Possible explanations for the differences between public and model programs, according to Barnett, are that the model programs studied tended to begin at an earlier age and lasted longer, were “more intense,” and were implemented better than the public programs.

Few might argue that providing all disadvantaged children with early childhood education opportunities equaling the quality and duration of these model programs makes sense. However, the feasibility of replicating and scaling-up many of these very small, highly-controlled programs is challenging; and the costs of doing so are enormous.

Some California policies aim at factors external to schools

California has a number of policies to help improve the economic circumstances of poor families and to compensate for some of the conditions of poverty likely to influence cognitive development and schooling success.

The state finds ways to boost family income

The majority of poor young children in California live in working families. One way to improve the economic circumstances of these families is to eliminate or substantially reduce their state income-tax liability. This boost in take-home pay helps offset the higher childcare and transportation costs families incur as they strive to become economically self-sufficient.

California's income tax threshold—the point at which a family owes income tax—has remained well above the federal poverty level (FPL) for the last decade. In fact, California has the highest income threshold of the 42 states taxing earned income. For example, in 2001 the threshold was \$36,800 for a family of three—more than twice the FPL for a family of

Research on the effectiveness of social programs abounds

The body of research on the effectiveness of social programs—to raise families' income, improve their health, and increase school readiness of their young children—is far more extensive than can be done justice in this report. Some suggested resources for learning more about work in this area include:

Growing Up in Poverty, a study of poor families in Santa Clara and San Francisco counties, by Policy Analysis for Education (PACE).
http://pace.berkeley.edu/pace_early.html

Long-Term Outcomes of Early Childhood Programs. The David and Lucile Packard Foundation. *The Future of Children*, Vol. 5, No. 3, Winter 1995. www.futureofchildren.org/

National Institute of Child Health and Human Development (NICHD), a research center of the National Institutes of Health, which conducts and supports research on the health of children and families. NICHD has completed numerous studies on the effects of early childhood education and child care.
www.nichd.nih.gov/about/od/secc/pubs.htm

MDRC, a nonprofit, nonpartisan social policy research organization that studies the impact and effectiveness of public policies on low-income individuals, children, and their families. www.mdrc.org

Early Care and Education for Children in Poverty: Promises, Programs, and Long-Term Results. W. S. Barnett and S. S. Boocock, eds. Albany, NY: State University of New York Press, 1998.

this size. Over the past decade, California raised its income tax threshold \$18,967 (average for all states was \$7,231) while the FPL increased only \$4,180.

These increases provide some economic relief for California's poor families but not enough. They do not fully account for the high cost of living in many areas of California, particularly in and around its urban centers, nor do they address Social Security and other payroll taxes, which are a greater burden on poor workers than state income tax. The federal earned income tax credit provides some relief for lower-income families.

Another way to improve the economic circumstances of poor families is to help parents acquire the skills necessary to enter the job market or to secure better paying jobs. For adults receiving welfare, CalWORKs—the state's version of the 1996 federal Temporary Aid to Needy Families (TANF) legislation—offers cash assistance (about \$8,000 per year for a single-parent family of three), vocational training, educational programs, and childcare services. The program places a five-year lifetime limit on benefits and has a mandatory work requirement.

California also offers a variety of classes to help unemployed and low-income adults compete in the job market. Adult schools run by school districts in the state serve approximately 1.7 million adults (1999–2000) in, for example, English as a Second Language (ESL), Citizenship, Vocational, and General Education Development (GED) programs. The 2002–03 state budget for adult education is \$582 million, with an additional \$91.8 million in the federal budget allocated for California.

California guarantees a minimum wage of \$6.75 per hour. Only Washington—at \$6.90—offers more. A family relying solely on the income of a minimum-wage worker in California, however, has an annual income of \$13,500—more than \$1,000 below the federal poverty level for a family of three and less than half of the California income tax threshold. It is important to note that in addition to those working at minimum wage in California, migrant workers and illegal immigrants constitute a sizable group who often work for even less in the agricultural, domestic, and service industries.

State health programs combat effects of poverty on children

Many state programs are designed to offset the negative effects of poverty on children's physical and cognitive development. The state's health programs are the largest in terms of dollars spent and the percentage of children served. The Medi-Cal, Healthy Families (HFP), and Child Health and Disability Prevention (CHDP) pro-

grams, supported with a combination of state and federal funds—along with various related safety-net programs—provide health insurance for more than one in four children and seven in 10 poor children in California.

Under current eligibility rules, children who are citizens, or are noncitizens legally residing in the United States, are eligible for either Medi-Cal, HFP, or CHDP if their family's income does not exceed 250% of the federal poverty level (FPL). Pregnant women and their infants are eligible for Medi-Cal up to 200% FPL. The specific program for which children are eligible depends on their age, family income, and family size.

However, despite these programs, somewhere between 1.0 and 1.7 million California children—about 16%—are uninsured. Approximately two-thirds of the uninsured, 75% of whom are Hispanic, are eligible for Medi-Cal or HFP but are not receiving benefits. One reason appears to be that public health-insurance programs in California are a maze of aid codes, eligibility categories, and services. Further, Medi-Cal in particular may be administered differently from county to county. According to a recent survey by the UCLA Center for Health Policy Research, one in three parents with uninsured children eligible for Medi-Cal thought their children were not eligible. One in eight objected to some characteristics of the program, particularly the onerous paperwork. The survey also found that parents of nearly one in four uninsured children eligible for HFP did not know of the program's existence.

Some changes have been made to streamline the health care system and to improve outreach to low-income families in California. For example, the state implemented a new web-based application program for HFP—Health-e-App—that allows applications to be filled out in 30 minutes or less. The state also created an "express lane" eligibility program that would have publicized HFP coverage to low-income parents when they signed up their children for subsidized school lunches. For fiscal reasons, the governor vetoed funding for this program in the 2002–03 budget.

In addition to state health programs, many Californians receive the benefits of large federal poverty-relief programs, such as Women, Infants, and Children (WIC), a program that provides food, nutrition education, and referrals for other healthcare and social services. More than 1.2 million Californians receive services from WIC every month.

A few state programs are designed to enhance preschool experiences

A few state programs have been specifically designed to enhance the preschool experiences of California's

Do students' cultural backgrounds help sustain the gap?

It is well documented that some K-12 educators have lower expectations for achievement for some groups of students than for others. Harvard University Professor Pedro Noguera (formerly with University of California, Berkeley) notes: "There is considerable evidence that the ethnic and socioeconomic backgrounds of students have bearing upon how students are perceived and treated by the adults who work with them within schools." This has been a topic of much discussion over the past decades, and changing teachers' attitudes and practices is at the heart of standards-based reforms and NCLB.

While this problem is complex, pervasive, and in need of resolution, there is another issue that should not be ignored—how the values and expectations of students' cultural backgrounds and communities influence student attitudes about schooling and thus their academic performance. The extent to which culture affects attitude and achievement is a subject of political sensitivity and some controversy.

The variable that is most consistently correlated with low student performance is family poverty and a low parent education level. Yet even among students coming from poor families, some cultural groups generally and consistently outperform others in school. Understanding why this is so could make efforts to narrow student achievement gaps more effective. Unfortunately, research into this phenomenon often has not been accepted as rigorous enough or findings have been inconclusive.

In a survey of more than 20,000 high school students, Temple University Professor Laurence Steinberg and associates found that Asian students in general were "more engaged" in school. On measures of overall orientation toward school, Asians outscored students of all other backgrounds, including white students.

Steinberg also found that students differ by race/ethnicity in how they view the consequences of doing poorly in school. "By a substantial margin, Asian students were more likely than other students to believe that not doing well in school would have negative consequences for their future. ... It is undue optimism, not excessive pessimism, that may be holding black and Latino students back in school. Their problem isn't that they have lost faith in the value of education. The problem is that many black and Latino students don't really believe that doing poorly in school will hurt their chances for future success." This view is reinforced by the fact that most employers do not ask to see high school transcripts.

Researchers differ regarding cultural causes and effects

University of California, Berkeley, Professor John Ogbu also sees culture as a critical factor. He argues, however, that community-based "folk theories"—which suggest, for example, that because of the history of discrimination against African Americans, even those who work hard will never reap rewards equivalent to whites—contribute to self-defeating behaviors among African American students. While acknowledging the

powerful effects of poverty on student performance, Harvard's Pedro Noguera argues that cultural influences may explain why "when compared to their white peers, middle class African American males lag significantly behind in both grade point average and on standardized tests."

Others theorize that parental and cultural influences—even when supportive of academic success—can be undermined by teens' strong need for peer approval and acceptance. Steinberg's research found that Asian students were more likely to have friends who place a lot of emphasis on doing well in school—even if these friends were not Asians. The opposite was true for African Americans and Hispanics. Steinberg claims that among the students surveyed, he found that "peer pressure to not do well in school is so strong in some of these communities that it actually undermines black and Hispanic parents' efforts to facilitate their children's success."

Public opinion surveys conducted by the nonprofit organization Public Agenda underscore the intensity of both black and Hispanic parents' desire for their children to do well academically. In a 1998 study entitled *Time to Move On*, Public Agenda reported that 82% of black parents wanted "the schools their children currently attend to make raising academic standards and achievement their foremost priority." A majority thought "it is absolutely essential for schools to expect all kids to go on to college," compared to less than one-third of white parents who thought so. Based on another survey conducted in 2000 and reported in *Great Expectations: How the Public and Parents... View Higher Education*, Public Agenda said that both African American and Hispanic parents are more likely than white parents to say that a college education is "the one thing that can most help a young person succeed in the world today."

Strategies for changing the negative effects of culture and peers remain unproven

There is considerable evidence that family and cultural expectations have an influence on a student's academic performance. But when the influence is negative, there is far less evidence and good information on how it can be offset. In some cases, educators and community leaders need to focus their efforts on educating parents on how best to support student learning. In other cases, educators should recognize that many parents in low-income communities already hold high expectations and hopes for their student's academic success and are looking for support from and a partnership with the school to help them offset the influence of a negative adolescent peer culture. In addition, schools can try to create positive peer support within the school day or in after-school programs for students who may not have access to high-achieving peers at home or in their neighborhoods. To the extent that peer and cultural expectations influence a student's academic outcomes, this is an important subject for continued study with the goal of identifying effective supports and interventions.

more than 1.8 million low-income children. The 2002–03 Budget Act includes \$3.1 billion—\$1.7 billion from the General Fund and \$1.4 billion in federal funds. The funds provide for approximately 566,000 “childcare slots”—249,000 (44%) are reserved for current and former CalWORKs recipients. However, most CalWORKs childcare funding does not go toward actual slots in childcare centers but to individuals who are reimbursed through vouchers for the home-based care they offer. The quality of these childcare settings is uneven.

Of the \$3.1 billion appropriation, \$1.4 billion goes to non-CalWORKs programs, including:

- **State Preschool** program (\$308 million) that serves 100,000 children in part-day, comprehensive, developmental programs for three- to five-year-olds from low-income families.
- **General Child Care and Development** program (\$512 million) that serves 89,500 infant to 14-year-olds in public and private centers providing basic supervision, nutrition, and parent education.
- **Migrant Child Care** (\$26.5 million) that serves 9,000 children of agricultural workers for varying lengths of time depending on the harvesting activities in the area.

The federal Head Start program that serves about 97,000 California children is managed directly by the federal government without state involvement and is not included in this number.

The effects of these programs on children’s later educational progress are not documented in any systematic way. The state, however, has licensing requirements for employees in publicly funded facilities. Privately operated facilities in the state are not required to employ licensed personnel. In general, licenses must be renewed every five years with proof of additional professional training and/or college coursework.

High-quality childcare programs are expensive. Children Now, a California nonprofit organization that studies and advocates for children’s issues, estimates the average cost for a full-time, early-care program in California in 2000 was \$430 per month or 12% of the state’s median family income. Outside the public programs listed above, there are few opportunities for the state’s low-income children to participate in organized preschool activities before they enter public school. Like 37 other states, California does not require parents to enroll their children in kindergarten, but nine out of 10 children do attend. Thirteen states require children to attend kin-

dergarten, and two of these—West Virginia and Louisiana—require full-day attendance.

Proposition 10 earmarks resources for early childhood development

Proposition 10, passed in 1998, provided a new revenue source for county-level programs aimed at helping preschoolers. This voter initiative created the Children and Families First program to “promote, support, and optimize early childhood development” of children from before birth to their fifth birthday. Funding comes from an increase in the state tax on cigarettes and other tobacco products. The revenue from this increase—approximately \$700 million per year—is divided among the state’s 58 counties based on the number of live births in each county. Funds may be spent on a broad range of programs to support and improve the development of children under the age of five, without regard to socioeconomic or residency status.

A commission appointed by each county’s board of supervisors decides how funds are allocated. Local programs vary from expanding and improving shelters for homeless families to integrating the administration of various county programs for young children.

The belief that schools can and should narrow the gap propels education reform

For decades a driving force in education reform has been confidence—or at least optimism—that schools can help students overcome the factors they bring with them to school that limit academic achievement. In pursuit of that goal, researchers have for more than 40 years doggedly pursued answers as to why some students and schools perform better than others. The findings from much of this work are mixed and provide little guidance in designing discrete solutions with reliable and predictable results. To the extent that conclusions have been drawn, they indicate that no silver bullet exists. Narrowing the achievement gap requires a comprehensive set of strategies that are interdependent and crafted to meet local needs.

A “whole-school” approach may be necessary to improve student achievement

In the 1970s researchers in the United States and the United Kingdom independently began to study schools that were successfully educating students regardless of their socioeconomic status or family background. Collectively this work became known as “effective schools research.”

Effective-schools research supports the notion that all children can learn and that schools control the factors necessary to assure student mastery of a rigorous core curriculum. In this respect, the research countered the interpretations of Coleman's earlier work that schools could do little to compensate for the differences in family backgrounds that so strongly influenced children's school performance.

Out of this research come the "Correlates of Effective Schools," which include:

- **Safe and orderly environment:** There is an orderly, purposeful, business-like atmosphere.
- **Climate of high expectations:** The staff believes and demonstrates that all students can achieve mastery of the school's curriculum.
- **Instructional leadership:** The principal acts as an instructional leader and effectively and persistently communicates the mission of the school to staff, parents, and students.
- **Clear and focused mission:** There is a clearly articulated mission of the school through which the staff shares an understanding of and a commitment to the school's goals, priorities, assessment procedures, and accountability.
- **Opportunity to learn and student time on task:** A high percentage of classroom time is dedicated to student-learning activities.
- **Frequent monitoring of student progress:** A student's progress toward achieving the essential objectives is measured frequently, and the results of these assessments are used to improve the individual student's behaviors and performance as well as to improve the curriculum as a whole.
- **Home-school relations:** Parents support the school's mission and have the opportunity to participate in meeting it.

The effective-schools research was the impetus for a number of "whole school" reforms such as Accelerated Schools, Modern Red School House, and Success For All. Though the more than 100 whole-school designs available today differ in their curriculum and/or instructional focus, they share in common certain characteristics that distinguish them from other popular reforms. Most notably, they take an organizational approach to improving student performance—focusing more on how schools do things than on what schools do.

In 1991 New American Schools (NAS), a private nonprofit, was created to help schools and districts dramatically raise student performance by using whole-school designs. In eight jurisdictions and almost

200 schools across the country, NAS helped with implementation and contracted with RAND to evaluate progress along the way.

Three years into scale-up, RAND reported that of the 163 schools for which it had data, test scores in mathematics for half of the schools and scores in reading for nearly half had improved at a faster rate than scores for their respective districts. These results were consistent with the few independent studies conducted on whole-school programs.

However, RAND researchers found that their ability to draw definitive conclusions about the effectiveness of various whole-school designs in improving student achievement was hampered by a lack of longitudinal data comparable across all schools and districts, as well as dramatic variation in how fully the designs had been implemented. They also raised the question of whether full implementation is even possible in the existing system, stating that "schools are not, by and large, fertile ground for 'break the mold' ideas, often because of a lack of capacity or because of local, state, or district regulations."

"Systemic reform" emerges as a means for improving student achievement

The effective-schools approach reflected a shift that was also occurring within the research community in the mid-to-late 1980s. A consensus was building that the meager results of previous school reforms were due to the very nature of the reforms, which analysts characterized as "top down" and "more of the same." Researchers argued that the centralized, multilayered, compliance-driven, and bureaucratic nature of public schooling—so perfectly designed to promote stability—was equally well designed to resist even well-intentioned reforms. Researchers began looking for an organizational structure that promoted excellence and accountability while remaining flexible and adaptable to changing circumstances.

The answer for many researchers was found in

"Schools are not, by and large, fertile ground for 'break the mold' ideas, often because of a lack of capacity or because of local, state, or district regulations."

studies being done at the time on successful organizations in the private sector. This work, popularized in books like *In Search of Excellence* by Tom Peters and Robert Waterman, examined knowledge-based,

labor-intensive organizations that were similar to public education. Successful ones were "flat," with only a few layers of administration and authority, all of which focused on the organization's mission. Higher levels of the organization established the overall goals, secured resources, provided information, and measured performance. The front-line workers were held accountable for results but were also given the flexibility, training, and authority to determine how best to achieve those results.

Critics argued that: 1) public and private organizations were not comparable—education has multiple goals and serves many constituents; 2) stability is a valued characteristic in an important social institution such as public education; and 3) it was unrealistic to expect to dramatically change a large organization defined both in purpose and process by various state constitutions and volumes of legal code.

In the early 1990s "systemic reform" emerged as a strategy for accomplishing such an "unrealistic" trans-

formation. Marshall Smith and Jennifer O'Day, who coined the term, proposed a systematic approach to transforming public education along the lines delineated in private-sector research. The strategy included three major components:

- A unifying vision and goals;
- A coherent system of instructional guidance that defines what students need to know and be able to do, and provides students with the opportunity to meet the standards;

- A restructured governance system, in which the responsibilities at all levels—school, district, and state—are defined.

States took charge of developing a unifying vision and instructional guidance

Each state was to take the lead in creating the vision. The first step was to define a core of challenging and engaging knowledge, skills, and problem-solving capacities as goals for all students. Overcoming the policy "fragmentation" that had resulted from years of "project-oriented" reforms required coordination at the state level of the key elements affecting instruction: curriculum and curricular materials, pre-service and in-service teacher training, and assessment.

States responded surprisingly quickly to the idea of systemic reform. Many, including California, had previously developed curriculum frameworks that set out the best thinking in the field about the knowledge, processes, and skills students needed to know. States set about making these more explicit by creating subject-matter content standards that would then be used to set curriculum and change teacher-preparation programs.

By the mid-1990s new student assessments aligned with these standards were in the works as were accountability measures. A few states—Florida, Ohio, and Texas most notably—quickly took the lead in developing comprehensive information systems that provided both schools and the public with measures of student progress. These were not just accountability instruments. They were also designed to provide local educators with the information necessary to adjust their instructional practices to best meet the needs of their students. In fact, Florida's system was recently able to provide the state's Board of Regents—within two weeks of their request—a report on the high schools attended, the courses taken, and the teachers for every entering college freshman requiring remedial classes.

Policymakers have largely ignored restructuring governance systems

Much of the systemic reform done by states has focused on aligning curriculum and assessments with learning standards. The "standards-based" reform movement has virtually ignored Smith and O'Day's other component—restructuring the governance system.

After a decade of systemic reform, few states have done anything to flatten the organizational structure of public education or to increase the authority of local educators in matters of funding, policy, or practice. California is a case in point. In the last decade, the state developed a series of content standards for students in core subjects and

After a decade of systemic reform, few states have done anything to flatten the organizational structure of public education or to increase the authority of local educators in matters of funding, policy, or practice.

aligned new teacher preparation standards, accountability systems, and student and teacher assessments with these standards. Such top-down activity is compatible with the flow of authority in multilayered organizations. The more difficult portion of systemic reform is the shifting of authority to those closest to the work—in this case local schools—because it requires a fundamental change in the organizational processes and culture. Research on private-sector organizations shows that it is easier to create new “flat” organizations than it is to restructure formerly top-down, centralized systems into these types of operations.

Thus reforms have been put into place atop a maze of existing programs, many of which are highly regulated in terms of their operation and local district accountability. For example, numerous categorical programs—as many as 70 in California—and their attendant rules and regulations still funnel large amounts of money to local districts. Critics believe these programs prevent schools from designing effective programs and empowering local educators. Further, the relationship between funding and need has eroded over time as few categorical programs in the state are updated to reflect the changing demographics of schools. Yet most of the programs exist because they addressed a problem and still have constituencies that support them politically whether or not the problem still exists. Block grants that would allow more flexibility in local spending and program design have been used sparingly in California.

The charter school movement is, in part, a reaction to the research on the importance of organizational structure. These schools are formed and operated outside most of the rules and regulations controlling other public schools. Most states consider charter schools experimental, which may explain, at least in part, why so many states allow charter schools to operate but resist empowering traditional public schools with similar flexibility and authority.

The Consortium for Policy Research in Education (CPRE), a multiuniversity research center, has tracked systemic reform from the beginning. Several of their evaluations, such as those done in Minnesota, have found that while local educators applaud attempts to bring coherence to the system, many feel that systemic reform is far from systemic. For these educators, systemic reform—or more specifically the standards-based reform effort—is playing out as just another in a long series of educational reforms. Standards and the accompanying changes are simply layered onto the existing system.

It is difficult to come to any definitive conclusions on the specific effects of systemic reform on student achievement. First, no state has fully implemented systemic reform. Second, it is impossible to assess student progress because the very nature of the reform means that current measures of student performance are different from those used before the reform. Finally, there is no way to know how students would have fared without the reform as no control group exists.

What is known, however, is that states such as Texas, North Carolina, and Connecticut that have sustained reform policies across governors and parties have met with success in improving student achievement. According to Smith, “sustaining” appears to be as important as any specific reform itself.

A new federal initiative continues the same reform philosophy

New and far-reaching federal legislation is the next step in this evolutionary story of education reform. The stated goal of the 2001 law, the No Child Left Behind Act (NCLB), is to “close the achievement gap between disadvantaged and minority students and their peers.” The bill reauthorizes the Elementary and Secondary Education Act (ESEA)—originally enacted in 1965 to provide funds for compensatory education programs, such as Title I. NCLB calls for “stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have been proven to work.”

NCLB adds \$836 million (2002–03) to California’s current federal funding. In return for that, the law requires that California ensure that all its students be academically “proficient” within 12 years. NCLB requires standards in a wide variety of educational areas for the specific purpose of narrowing the achievement gap. For example, beginning in 2002–03, states can hire only “highly qualified” teachers at schools receiving Title I funding.

California policies have varied rationales and results

Education research over the last 30 years has included extensive investigations of the factors influencing student achievement. The results of much of this research—especially as it pertains to public schooling—are inconclusive, if not contradictory, and provide few definitive answers on how best to improve learning for all students, in particular the lowest-performing students. Still, states struggle to

improve education with the best evidence possible, or sometimes in spite of it.

At times in concert with standards-based reforms, and at times independent of them, California state leaders have crafted many policies aimed at narrowing the achievement gap. Some have been highly targeted, and some have been aimed at educational improvement generally. The following section, which focuses on California, groups the state's efforts according to the focus or strategy at work, including funding, teacher quality, student learning, school organization and management, and external pressure to leverage improvement. This organization is not meant to imply that these policies were adopted or implemented as a comprehensive, integrated strategy.

School funding is often associated with educational performance

One of the most commonly accepted explanations for the differences in student performance has been the notion that unequal access to funding is linked to unequal educational opportunity, which results in unequal academic performance. This has been the rationale for much of the school funding litigation over the past 40 years. The research on the connection between money and student achievement is, however, inconclusive and highly controversial.

Policies and court cases address funding equity issues

In California, the 1970s *Serrano v. Priest* lawsuit was one of the first of many cases across the country in which plaintiffs charged that variations in school funding were discriminatory and unconstitutional. A 2000 analysis by Jon Sonstelie and associates of the Public Policy Institute of California (PPIC)—entitled *For Better or for Worse? School Finance Reform in California*—shows however, that contrary to the claims of the *Serrano* plaintiffs, variations in funding across California school districts at the time “did not appear to be systematically related to race, ethnicity, or family income.” In fact, a high proportion of poor and minority students attended—and still do attend—schools in high-revenue urban districts.

The court-mandated changes in California resulted in one of the most equalized district-level funding systems in the country. However, the state achieved this equalization more by slowing the growth of spending by wealthier districts than by raising spending in poorer districts, contrary to many other states.

California's experience suggests that equalizing funding across districts is not sufficient to close, or even narrow, the achievement gap. As discussed earlier, the state suffers a large and persistent gap between

the performance of disadvantaged students and their more advantaged peers—even after 30 years of court-mandated equalization. It can be argued, however, that California only illustrates that misdirected equalization at low levels of funding has little effect on student performance. Money, it would seem, still matters. But then there is New Jersey.

New Jersey's school funding was also challenged in the courts. Over the course of 25 years of litigation, the court moved from a focus on statewide equalization to requiring that funding in a number of “special districts”—low-performing districts with high percentages of disadvantaged students—be raised to that of the highest-spending districts in the state. Even when adjusted for cost-of-living differences, these “special districts” receive more money per student than any district in California—and have for several years. Student performance in New Jersey's “special districts” continues to be abysmally low, but it remains to be seen whether equalization will pay off in the long run.

Debate over the distribution of educational dollars within states is likely to continue for reasons of equity and fairness. However, with little compelling evidence on the direct connection between money and student performance and with the unsatisfying effects of equalization on narrowing the achievement gap, the notion of “adequacy” of educational opportunities is replacing older constructs of “equity” of educational dollars. “Adequacy” is an approach to school funding that begins with the premise that the amount of funding schools receive should be based on some estimate of the cost of achieving the state's educational goals. This approach attempts to answer two questions: How much money would be enough, and how would it best be spent? Thus, researchers and courts are beginning to focus less on money per se and more on what that money buys.

Programs to narrow the achievement gap use categorical funding

Since the early days of President Lyndon Johnson's “Great Society,” the federal government has earmarked funds for special programs and services aimed at improving the academic performance of the country's most disadvantaged students. For example, Head Start and Title I funnel federal dollars to states in support of programs for poor and disadvantaged children.

States responded by either expanding on federal programs or creating and funding their own initiatives to provide additional services to low-achieving groups. Many of California's educational programs provide additional funds to districts with large populations of

disadvantaged, low-performing students. These “categorical” programs, as researcher Lawrence Picus notes, “are not always reviewed or updated in light of student needs or district characteristics.” An analysis by EdSource showed that in 1999–2000, a district’s total revenues bore little relation to the number of disadvantaged children it served.

California officials have taken little action to change the state’s system of school funding since the *Serrano* court ruling. Increasingly, however, state leaders are debating the value and effectiveness of dispensing such a large portion of education funding through earmarked categorical programs. According to the Legislative Analyst’s Office (LAO), the state increased per-pupil funding over the last decade by \$1,390 (25%)—adjusted for inflation and changes in attendance accounting. About a third of K–12 funds are allocated through various categorical programs. The LAO also notes that evaluations of categorical programs “have offered largely inconclusive evidence of program success or failure.”

The LAO recommends that the majority of categorical be consolidated into five block grants—Academic Improvement, Compensatory Education, Alternative Education, School Safety, and Teacher Support and Development. The LAO recommendation is consistent with research on high-performing organizations in that block grants, unlike categorical, give local educators more control and authority over resources while still holding them accountable for results. NCLB echoes the LAO’s recommendations in that it emphasizes increasing local program flexibility. Yet it is also forcing states to adapt some of their policies very specifically in the name of general educational quality as well as accountability.

The California State Legislature has not acted directly on the LAO recommendations to consolidate categorical, though policymakers will likely consider some form of consolidation and increased categorical flexibility to help address California’s current fiscal crisis. The Legislature, however, affirmed the need to examine the state’s funding system by passing the Quality Education Model Act in 2002. This law creates a commission charged with developing a model upon which policymakers can base a reasonable cost estimate for operating schools capable of helping students meet state standards. It would also help policymakers decide how best to direct available resources in support of that goal. This is a commitment to at least consider an “adequacy” approach to school funding similar to what other states—including Oregon, Wyoming, and Maryland—have done in recent years.

Teachers are a crucial but unevenly distributed resource

In recent years litigation and research has focused less on money and more on the resources that money buys. According to much of the research, the single most important school resource linked to academic success is the teacher. In an exhaustive study of resource distribution in California, PPIC found the following based on 1997 data:

- Among school resources, the level of teacher experience and the percentage of teachers without a full credential are the variables most strongly related to student outcomes.
- Schools with particularly disadvantaged students are likely to have less-educated and less-experienced teachers.
- Asians and whites are taught by teachers who are more experienced, better educated, and more likely to be fully credentialed than are teachers of African Americans and Hispanics.

Several researchers have attempted to quantify the effect of “good” or “bad” teachers on student performance. For example, economist Eric Hanushek has found in his studies that having “good” teachers five years in a row can eliminate the average achievement gap between a poor student and his or her higher-income peer. Hanushek defines a teacher’s quality in terms of how much gain in achievement his or her students have in one year. The best teachers might get a gain of one-and-a-half grade levels, while poor teachers might get a gain of half a year during one academic year.

The evidence on the importance of teachers to student learning appears convincing, though the research findings are mixed as to what specific teacher characteristics—credentials, courses studied, quality of college attended, years of experience—are most associated with student achievement. It is important to remember, however, that teacher quality no matter how it is defined is most often associated in the research with only modest gains in student perfor-

The research on the connection between money and student achievement is inconclusive and highly controversial.

The proportion of underqualified teachers remains high in the state's lowest-performing schools and those serving the most disadvantaged students.

mance. For example, a recent study by Julian Betts and Anne Danenberg predicts that the achievement gap between low-performing and high-performing

schools in California would be reduced by only 10% if teacher quality (measured by credential status) was equivalently high in both types of schools.

Nevertheless, when California policymakers confronted data confirming that the state's lowest-performing schools had a disproportionate share of uncredentialed teachers, they created several programs to try to change that situation. For one, they decided to build on the state's existing support for National Board certification for teachers, adding an extra financial incentive for successful candidates who agree to teach in low-performing schools. To become National Board certified, a teacher must complete an extensive series of written and performance-based assessments in pedagogy and subject content based on the

highest standards of practice. The state's 2001–02 budget included \$10 million in state funds for fee subsidies and one-time awards.

California has seen a dramatic increase in the number of National Board-certified teachers from 217 in 1999 to nearly 2,000 in 2002. In 2000–01, the latest available data for the state's National Board certification incentive program, 361 of the then-790 National Board-certified teachers had committed to teaching in low-performing schools. However, California's teacher workforce currently stands at more than 300,000.

Additionally, there is controversy around the effectiveness of board-certified teachers in improving student achievement. In fall 2002 the National Board for Professional Teacher Standards (NBPTS), the organization that operates the certification program, commissioned 22 separate, independent studies to assess the impact of the program, including its impact on student achievement and on low-performing schools.

Since 1999 state leaders used a number of other existing and new programs to attempt to encourage credentialed teachers to work in the most challenging schools. This included the \$89 million Teaching As a Priority (TAP) program, which gives districts flexibility to develop their own local initiatives around this goal. There are no restrictions on how the money may be used—signing bonuses, improved working conditions, teacher compensation, and housing subsidies are all permissible—but districts must demonstrate a reduction in the number of teachers holding emergency permits or waivers in every funded school to qualify for subsequent awards.

The proportion of underqualified teachers remains high in the state's lowest-performing schools and those serving the most disadvantaged students. In its 2002 report on the status of teaching in California, the Center for the Future of Teaching and Learning (CFTL) reports that, in schools with the highest percentages of minority students, more than 20% of teachers are underqualified as compared with less than 5% of teachers in schools serving the lowest percentages of minorities. In schools where 76%–100% of students are poor, 19% of teachers are not fully credentialed. In contrast, in schools with the lowest percentages of poor students, on average only 8% of teachers are not fully credentialed.

CFTL also found that in the lowest-performing schools, as ranked in the Academic Performance Index (API), on average 21% of teachers are not fully credentialed and 18% are in their first two years of teaching. In the highest-ranking schools, 5% of teachers are not fully credentialed, and 10% of the faculty are in their first or second years.

Professional development could help to mitigate inadequate teacher preparation

In 1999 California began to revamp its state-supported teacher professional development program by creating Professional Development Institutes (PDI) to provide intensive teacher training tied to the state's standards in the four core academic areas: English language arts, mathematics, science, and history/social studies. In 2001 the state shifted funding and responsibility to local districts by establishing the Mathematics and Reading Professional Development Program, which gives districts incentive funds to provide their own standards-based professional development for teachers. The training is modeled after the PDIs. From the perspective of narrowing the achievement gap, lawmakers expected that these programs would help to raise the knowledge and skill levels of inexperienced and underqualified teachers, many of whom are serving in schools with the most disadvantaged children.

In 2001–02 and 2002–03, the governor proposed funding the program at \$80 million and \$100 million, respectively, but then later cut funding to \$31.7 million each of those years, due to the state's fiscal crisis. The governor proposed \$63.5 million for the program in 2003–04.

Standards-based reforms try to improve how well students learn

Certainly a major goal of standards-based reform is to define rigorous learning expectations and to enable all students, even the lowest achievers, to reach them. California's content standards and an extensive investment in aligned curriculum and professional development focus on achieving that goal. Specific to the achievement gap, then, are policies aimed at providing extra help to those students for whom the higher expectations are most daunting.

In the face of inconclusive and often contradictory findings about which instructional strategies narrow the achievement gap, California policymakers and voters have nonetheless proceeded to enact a number of policies attempting to do just that. None, perhaps, has been more controversial than how best to teach the state's growing population of English language learners.

Policies address how English language learners are educated

In California one cannot address the achievement gap without looking at how English learners are educated. The state's voters took a hand in policymaking in 1998 when they overwhelmingly passed Proposition 227, which requires, with a few exceptions, that all public school instruction in the state be conducted in English. The law nearly eliminated bilingual education, requiring instead that English learners be taught through sheltered English immersion programs "not normally intended to exceed one year." A limited number of schools have waivers from the State Board of Education (SBE) that allow them to operate bilingual programs instead.

WestEd and the American Institutes for Research (AIR) are charged with evaluating the implementation and effects of Proposition 227. In 2002 they released the second annual report of their five-year study in which the academic progress of English-only (EO) students is compared with the progress of English learners (EL) and those EL students redesignated as "fluent English proficient" (RFEP). With unique access to student-level Stanford-9 test scores, researchers were not only able to track the progress of successive groups of students (e.g., 3rd graders in 1998, 1999, and so on) but also progress of students as they moved through school (e.g., 3rd graders in 1998, 4th graders in 1999, and so on). In general, the study

found that the significant gaps between the performance of EO and EL/RFEP students persist, though they narrowed slightly between 1998 and 2002.

The state hopes to have better information about its EL students in the future, in part through administration of the California English Language Development Test (CELDT) that standardized school districts' assessment of English proficiency for these students. The needs of English learners also received attention as the state adopted new textbooks. The SBE requires that, in order to be considered for adoption, reading/language arts textbooks must include a 30–45 minute lesson designed for English learners that is beyond the minimum daily instructional requirement for all students.

State leaders implement programs to help struggling students

In an attempt to provide extra instructional support for students unable to master the standards during the regular school day—or in the traditional school setting—state leaders initiated a number of supplemental instruction programs. These included the Elementary School Intensive Reading Program and a handful of remedial after-school and summer school programs for students in grades 2–12. In 2002–03 California appropriated \$450 million to school districts to operate these programs.

The state has also made a significant investment in its Before and After School Learning and Safe Neighborhoods Program—school-based partnerships with local governments and nonprofit groups to operate academic support and enrichment activities for students before and after regular school hours. This investment has grown from \$50 million in 1999–2000 to \$122 million in 2002–03. In addition to complying with state regulations for operating hours and program elements, participants are required to submit annual outcome data on academic performance, attendance, and positive behavioral changes of students enrolled in these programs.

In November 2002 Californians supported Proposition 49, which will likely increase the state's contribution to the newly named After School Education and Safety Program to \$550 million per year beginning in 2004–05. All schools will be able to access these funds for their after-school programs. However, current Before and After School Learning and Safe Neighborhoods Program grantees and schools serving a majority of low-income students have first priority. These first-priority programs have grant caps of \$75,000 for elementary school programs and \$100,000 for middle schools, while second-priority program grants will be capped at lower amounts.

Some measures attempt to motivate students to achieve

Along with support for students, policymakers decided that state measures could help to motivate all students to better achieve. For example, the

Governor's Scholarship programs award scholarships for college tuition and fees to 9th, 10th, and 11th graders who score well on the state achievement test and to those who, in addition, score well on math and science Advanced Placement (AP) or International Baccalaureate (IB) exams. In its first two years of existence, the programs have awarded more than 220,000 scholarships.

One purpose of the High School Exit Exam (CAHSEE) is to motivate students to higher achievement. Beginning with the class of 2004, California high school seniors are expected to pass the CAHSEE in order to receive a diploma. By law, students have multiple opportunities to take the exam, and districts must help prepare students who are not making significant progress toward passing it. After the first

two administrations of the

CAHSEE, a total of 48% of students in the class of 2004 have passed both sections of the exam.

In an effort to put an end to "social promotion"—allowing students to move to the next grade based on their age rather than their achievement, a practice that lawmakers perceived as all too common in California public schools—the Legislature and governor passed legislation in 1998 requiring each school district to develop an official policy on the promotion and retention of students. Policies must establish a means for identifying students who are at risk of being retained based on their STAR test results, grades, or other locally-established performance indicators. Subsequent legislation provided funds to school districts to offer summer school, after-school, Saturday, and intersession programs for these students.

Studies suggest that the benefits of smaller classes, usually around 17 students, are greatest for disadvantaged students and those in the earliest elementary grades.

These programs encourage students to take seriously their schoolwork and performance on state tests. In addition, the CAHSEE and laws around pupil promotion provide districts and schools with systematic means for identifying students who are not meeting minimum state standards so educators can provide remediation before it is too late.

But these strategies are not without their critics. For example, the CAHSEE is the focus of intense public debate on a number of fronts. As a result, policymakers have given the SBE authority to delay requiring seniors to pass the exam if an evaluation of the exam shows that the requirement is unfair to some students. Opponents of the test say that many students who would be denied diplomas because they failed the exam have not had access to the curriculum and instruction needed to pass it.

Class size may affect student performance

Among teachers and parents, one of California's most popular school reforms is class size reduction (CSR). It has also represented a major investment of money and energy on the part of the state's education system.

The findings from a substantial body of research on the effect of class size on student achievement are mixed. Studies that found a positive relationship suggest that the benefits of smaller classes, usually around 17 students, are greatest for disadvantaged students and those in the earliest elementary grades.

The most compelling evidence of the positive effects of small classes on student performance comes from Tennessee's Student/Teacher Achievement Ratio (STAR) project and Wisconsin's Student Achievement Guarantee in Education (SAGE) pilot program. A review of these and other CSR programs suggests certain conditions are necessary for this expensive reform to result in any significant and lasting student achievement gains. These conditions include an adequate supply of qualified teachers, sufficient classroom space, differential targeting of resources to poor and minority students, and the integration of CSR with other reforms focused on improving instruction and curriculum.

In 1996 the California Legislature created a K-3 CSR program. Districts receive per pupil funding for each K-3 classroom with 20 or fewer students. The total cost for CSR in California is about \$1.7 billion a year.

California's CSR program differed in a number of ways from programs implemented in other states. Most notably, California's initiative was:

- A freestanding program, not integrated in a broader reform package;

- Put in place all at once, with no pilot tests or phase-in period;
- A one-size-fits-all program that did not target schools or districts with high populations of those most likely to benefit—poor and minority students;
- Implemented with inadequate classroom space and qualified teachers—the percentage of K–3 teachers not fully credentialed went from 1.8% before CSR to 12.5% in the second year;
- Not tied to teacher training in instructional methods for smaller classes.

The California CSR Research Consortium, charged with evaluating California's initiative for the state, recently reported that "there is little connection between score gains and participation in CSR." This is, perhaps, not surprising given the nature of California's program and its inconsistency with the research on effective CSR initiatives. The CSR Research Consortium, of which EdSource is a part, also found that, despite the cost of the program and its so-far disappointing effect on student achievement, the initiative remains very popular among parents and teachers.

Based on its research and on the Tennessee STAR findings, the consortium recommended that California further test the effectiveness of CSR in narrowing the achievement gap by conducting a pilot study in which schools serving large numbers of low-income and minority students would reduce class sizes to 15 or fewer.

Reforms try to improve school organization and management

The apparent lackluster effects of California's CSR reform on student achievement were likely not a surprise to many researchers. Rather, they are consistent with research on what happens to initially successful project-oriented reforms when they are incompletely replicated or implemented in dissimilar settings. The importance of setting is a central concept of the restructuring movement, including whole-school designs and systemic reform proposals.

Research suggests approaches to changing whole-school operations

The effective-schools research began as a search for those factors that explain why some schools with traditionally underperforming student populations are academically successful. Researchers found the structure and operations of the individual school are key. Over time, organizational management theories provided significant additions to this research as concepts such as decentralization, empowerment, and total quality management were added as central tenets of whole-school designs.

California has integrated some of the concepts of the restructuring movement within its accountability system by requiring underperforming schools to develop schoolwide action plans to improve student achievement. In 1999 California lawmakers created the Immediate Intervention/Underperforming Schools Program (II/USP), which provides incentive funding to schools to develop and implement a plan for improvement. Schools from the bottom half of the Academic Performance Index (API), which ranks schools based on test scores, are invited to participate in this program. In return for the incentive funding, schools must improve their API scores by specified amounts or face sanctions such as staff reassignment or school closure.

A growing concern among policymakers about the schools at the bottom of the API led to the creation of the High Priority Schools Grant Program (HPSGP) in 2001. In 2002 schools in the first decile—or bottom 10%—of the API were targeted for participation in this program.

Currently, a two-phase, independent evaluation is underway of the Public Schools Accountability Act, of which II/USP is a major component. Preliminary findings released in July 2002 reveal that the first two groups of participating schools had slightly faster achievement growth than comparable schools, though the differences were not large enough to be statistically significant. Researchers found that these differences were most pronounced during schools' first year—the planning year—of participation. They found that while the II/USP was an effective catalyst for change for some schools, it was not for others for a variety of reasons. The evaluators' findings were based on an incomplete sample.

Federal policies—particularly the federal Comprehensive School Reform Program that began in 1998—have interacted with and been funded alongside California's II/USP programs. The purpose of the Comprehensive School Reform Program is to support schools

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that are implementing research-based, comprehensive school reforms in order to raise student achievement.

Researchers investigate what role school-level leadership plays

Research shows that complex organizations—such as schools and school districts—often suffer from “drift” with respect to their core values and mission. These organizations require strong leadership to keep them focused. The effective-schools research also emphasizes the need for strong leadership. In effective schools, principals see it as their obligation to make sure that everyone has a shared sense of purpose and a shared understanding that the mission of the school

is “learning for all.” In short, the research shows that a strong instructional leader is a necessary, though not sufficient, component of an effective school.

In a 2000 report by the National Staff Development Council, the group recommended several actions that policymakers and educators could take to improve the instructional leadership in schools. The group suggested ways to improve the leadership skills of principals, to build teachers’ capacity to share in the leadership responsibilities at their schools, and to encourage promising candidates to become administrators.

California has given a nod to the importance of school leadership with some of its reforms. Under the Principal Training Act, districts receive incentive funding to provide professional development for school site administrators using State Board of Education-approved providers. Administrators are trained in management, the use of technology, and educating for literacy—all with the aim of improving student achievement.

As of December 2002, more than 2,200 principals had participated in this program.

In the 2002 legislative session, California also enacted a law allowing alternative paths to both the preliminary (Tier 1) and professional clear (Tier 2) administrative credentials in an effort to address the shortage of administrative credential candidates. For a Tier 1 credential, candidates can now pass a test instead of having to complete a program of professional preparation or a one-year internship. For a Tier 2 credential, candidates can either pass a national administrator assessment or demonstrate mastery of the performance standards and get a recommendation from an administrative-credentialing program. They no longer have to serve two years as an administrator and complete an advanced preparation program if they choose this new route to the clear credential. Critics of the new law have expressed concern that, while this new path to the credential might address the state’s administrator shortage, it may also negatively affect candidate quality.

School-level leadership was also on the minds of federal lawmakers who provided funds for states to improve both teacher and administrator quality through NCLB’s Title II. In 2002–03 this amounted to \$400 million for California, though it is anticipated that most will go toward improving teacher quality.

Improved school climate may lead to higher student achievement

One of the findings of effective-schools research is that these schools provide a safe and orderly learning environment. Even if the environment does not sink to the level of shootings or bomb scares, the extent to which student learning is interrupted by routine disciplinary problems or constrained by inadequate or unsafe classrooms serves to diminish learning to some degree for all children. To the extent that these conditions are present in schools that serve high populations of students in poverty, they can hurt those students’ chances even further.

NCLB emphasizes the importance of a safe school environment and sets up a system for identifying unsafe schools. It also gives parents whose children attend schools deemed unsafe the opportunity to send them to other, safer public schools. California has a School Crime Report program that also serves as a system for identifying unsafe schools. However, the state is in the midst of revamping it to meet federal guidelines.

Adequate facilities are also seen as critical to a positive learning environment and in recent years, Californians have agreed to major investments to im-

Even if the environment does not sink to the level of shootings or bomb scares, the extent to which student learning is interrupted by routine disciplinary problems or constrained by inadequate or unsafe classrooms serves to diminish learning.

prove facilities. In November 2002 voters passed Proposition 47, a \$13.05 billion general obligation bond that earmarked \$11.4 billion for K-12 schools. The bond is in addition to substantial investment in facilities since 1998. A second measure, which will go on the ballot in 2004, would provide \$10 billion more for K-12 facilities.

In addition to adequate facilities, school size appears to have an impact on student achievement, particularly that of the lowest-performing high school students. Among the conclusions cited in a 2001 report by WestEd, student achievement in small schools is at least as high as that of students in large schools. Meanwhile, truancy, crime, and violent and disruptive behavior are less prevalent, attendance rates are higher, and dropout rates are lower in small schools. The research studies examined by WestEd found that disadvantaged students benefit the most from being in smaller schools.

As is true elsewhere in the country, California has tended to create even larger schools rather than smaller ones, particularly in the state's metropolitan areas. Some heavily impacted high schools have support to create small school environments without having to create smaller schools. For example, they can participate in the state's Partnership Academies Program, which offers financial and technical assistance to develop these schools-within-a-school provided they meet certain programmatic and financial requirements.

Private foundations are also taking an active role to reduce school size by funding pilot projects in some California schools. Evaluations of these programs will further the knowledge of the impact school size has on student learning.

Decreasing school size is an intuitively appealing strategy for improving student achievement. It is not a silver bullet, however. Along with more manageable school size must come program effort and energy around harnessing the benefits of being small. In other words, it is not just smallness but what smallness allows that is the key. In addition, there are many examples of large schools that succeed in spite of their size.

Market-based approaches and public scrutiny increase pressure to improve schools

Market-based approaches to improving schools are perhaps one of the most controversial reforms suggested in recent years. The idea rests on the notion that quality and innovation result when customers are free to choose between competing suppliers of goods and services. Nobel Prize-winning economist

Milton Friedman is probably the most famous proponent of the market approach in education. As early as 1962, he was advocating vouchers to "end the public school monopoly."

Public school choice, vouchers, and charter schools are all adaptations of a market-based approach. Supporters argue that giving a parent a wider range of choices within and outside of the public school system is not only consistent with democratic principles but can potentially improve public education as parents opt out of unsafe or academically inferior schools.

As recently as 2000, Californians voted down a proposition that would have given educational vouchers to every school-age child to be used at any public or private school in the state. However, other means of public school choice are more popular among Californians. Each year many parents exercise their right of intradistrict public school choice, or send their children to one of the hundreds of charter or magnet schools around the state.

It is clear that when parents are given choices, many will take advantage of them if they believe that moving their children to other schools will secure their safety and improve their educational opportunities. But some market-based approaches to improving public schools—such as education vouchers and charters—are relatively new to the education scene and are often implemented very differently across districts and states. While researchers are actively studying the impact of these approaches, it is still too early to know if they cause the public schools around them to improve.

Currently charter schools provide the best opportunity for studying such an impact in California. In 2001-02 there were 351 charter schools in operation

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in the state, enrolling 133,151 children or about 2% of the students attending public schools. In the recent legislative session, additional rules regarding charter schools were enacted, permitting more oversight by local districts. Charter schools, however, continue to enjoy more flexibility and freedom from state control than do regular public schools in California.

Policymakers create a public ranking system

Since 2000 nearly all of California's public K-12 schools have been included in the Academic Performance Index (API), a public ranking of schools based on student performance on state tests. Each year schools are expected to meet growth targets set by the state for the general student population, as well as for subgroups of students. The API thus helps state officials know how well individual schools are doing in general and in relation to the achievement gap. It also provides the public with a tool for pressuring their local schools to improve.

The API is not without its critics, however. Some have expressed concern that because growth targets for subgroups are set at only 80% of the schoolwide growth target, the achievement gap will persist.

NCLB supports school choice

NCLB reinforces the public—and particularly parents'—capability to exert pressure on schools by giving parents of students in failing schools the option to send their children elsewhere. According to the federal legislation, a failing school is a school that does not meet Adequate Yearly Progress, as defined by the state. In addition, students attending persistently dangerous schools, as determined by the state, also qualify for a school transfer. By law, the district must allow students at these schools to transfer to another and must provide transportation to the new school. The choice components of NCLB present several challenges for California districts, including how to handle space

and transportation issues and complex resource re-allocation when students transfer to new schools.

Research and experience can point to new directions

An extensive body of research documents the multiple factors associated with the achievement gap. Some of these are factors children bring with them to school, such as poverty, inadequate school readiness, minimal proficiency in the English language, and negative peer influences. It will take wider community and family support to minimize their negative effects on student achievement.

Other factors—such as how well a school is organized and managed, how qualified its teachers and other staff are, what subject matter and curriculum they teach, and how high the expectations are for all students—are within local control, including that of district school boards, administrators, and union leaders.

If school district leaders are serious about addressing gaps in student achievement, they will take a hard look at a wide range of policies and practices to ensure that, at a minimum, they do not put schools with the neediest students at a disadvantage. All local policies and practices would be reviewed in this light—including the allocation of private donations from community groups; the distribution of locally-generated tax revenues from parcel tax and general obligation bonds; and the effect of collective bargaining agreements on the equitable distribution of qualified teachers across schools in a district.

Californians can take additional steps to address the student achievement gap. For one, the state—and its local educators—need better data about how K-12 students are doing. In addition, policymaking must be based upon high quality, clear, and definitive research about best practice. Perhaps more importantly, state leaders need to sustain their financial investment in reform efforts in order to maximize their effectiveness. Sustaining the effort will be a formidable challenge for California given the state's current fiscal health.

Better data and research are essential to improve policy and practice

California has enacted numerous education policies—based both on the best thinking in the field and on popular trends—often with less than satisfactory or clear results. Making informed decisions about how to narrow the achievement gap requires consistent, reliable, and pertinent data and the skills to analyze it. Without this, it is impossible to evaluate programs intended to improve student performance. Through

Making informed decisions about how to narrow the achievement gap requires consistent, reliable, and pertinent data and the skills to analyze it.

NCLB, federal policymakers are insisting on the use of student performance data to evaluate the effectiveness of educational programs. A large portion of NCLB funding will be tied to the state's ability to demonstrate with data that federal funds have yielded positive results in student academic performance.

Currently, however, California and many other states have woefully inadequate student information systems for doing so. For example, California does not have the capability at the state level to track progress of individuals or groups of students as they move through the education system. Nor does it have the capacity to assess the impact that teachers or courses have had on students' academic performance. Both are essential to evaluating the impact of policies and programs on targeted groups of students, i.e. those identified as lower performing. To respond to the new federal mandate, California put \$7 million into the 2002–03 budget to create a longitudinal student performance database. This database will use the California School Information Services (CSIS) unique student identifiers.

NCLB also places heavy emphasis on "scientifically-based" research and programs. The phrase, which appears 110 times in the 2,000-page document, is precisely defined in the legislation. It states, in part, that scientifically-based research "involves rigorous data analyses that are adequate to test the stated hypotheses and justify the general conclusions drawn."

This NCLB focus has the potential to affect policy-making, encouraging programs and policies consistent with the research and discouraging policies that are popular politically but have not been widely proven to improve student academic achievement. With limited funds available for education, it is particularly important that they are well spent. Targeting them on those efforts that research indicates are most likely to succeed is wise policy. Further, building rigorous evaluations into programs will help inform policymakers and educators if the investments are working or if changes need to be made. The public is more likely to support these investments if they can see that they are done with intelligence and are having a positive, well-documented effect.

Financial hard times for California means cutbacks for education

In California any benefits of federal and state education reforms may be reduced or postponed until the financial picture in the state improves. According to the Department of Finance, California is facing an even larger revenue shortfall than the record-breaking deficit in 2001–02. The governor and Legislature made some tough budgetary cuts during an emergency session in February 2002 but managed to leave public ed-

ucation relatively untouched for the remainder of the last fiscal year. This is not so for 2002–03 with the governor's recent proposal for more than \$2 billion in midyear budget cuts for education.

California will thus be seriously challenged to sustain its investment in public education reform generally, much less invest more heavily in its least privileged and hardest-to-educate students. Finding the political will to invest more in these students has been an uphill struggle in a booming economy. If the pie gets smaller, doing so could mean taking resources from elsewhere in the school system.

Yet it is clear that a sustained effort is what is needed. In states like Texas, where some progress has been made against the achievement gap, it has occurred only over a span of a decade or more, and the effort has been sustained through good and bad economic times and through changes in political leadership.

California's current education reforms and the federal effort behind NCLB have the potential to dramatically change public education in California and positively affect the performance of its disadvantaged children. But improving student achievement is a particularly daunting challenge in California given the size of its student population and the large percentage of poor and minority students in its classrooms. Sustaining a commitment to those children is an equally daunting political challenge given the diversity of the state, the often-polarized political climate, and the extra burden of a severe budget crisis. It remains to be seen how effective the new federal policies will be in forcing California to sustain its focus and further target its efforts around achievement gap issues. The powerful leverage of large federal programs to quickly change state policies and practices is well documented. However, the ability of public education to absorb even dramatic changes and essentially nullify their effects is equally well documented. Time—and a sharp and unwavering focus on narrowing the achievement gap—will be required if the sweeping educational changes encompassed in the NCLB legislation and California's new reforms are to have any lasting effect. 

*It is clear
that a sustained
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is needed...
through good
and bad economic
times and through
changes in
political leadership.*

To Learn More

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For a complete bibliography and list of other important resources, see EdSource Online: www.edsource.org/pub_abs_achgap.cfm



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